



INSTRUMENTS  
Gas Detection for Life!

# **RKI INSTRUMENTS, INC. INSTRUCTION MANUAL**

## **Model XP-204 Portable Oxygen Indicator**

The accompanying instrument is sold and serviced in the USA by RKI Instruments, Inc. Please contact RKI Instruments for any follow up service needs, including questions, warranty issues, repairs, and spare parts and sensors. Thank you for selecting this fine instrument for your use. With proper care and maintenance, it will provide you with many years of reliable service.

INSTRUCTION MANUAL FOR  
PORTABLE OXYGEN INDICATION MODEL XP-204

The Model XP-204 oxygen indicator provides a quick, convenient method for determination of oxygen content of any atmosphere. It is intended primarily as an indicator of oxygen deficiency, with good readability from 0-25% oxygen.

Instrument is routinely calibrated on normal atmospheric oxygen concentration (21%). A zero adjuster is also provided, to permit adjustment to read zero on oxygen-free gas, such as nitrogen or natural gas. This provides error-free readings at both extremes, assuring good accuracy all along the scale.

The Model XP-204 is a companion to the Model GP-204 having the same dimensions, accessories and model of operation. Sample is drawn through a length of hose, terminating in a small-diameter probe with filter, which is convenient for insertion through manhole openings or access ports. Suction is provided by an aspirator bulb.

The Electrochemical oxygen cell is of the self-generating type, in which current is directly proportional to oxygen content of the atmosphere. Cell is exceptionally fast in response, may be operated in any position and is usable at temperatures down to +10°F. It operated approximately 6 months on charge, and may be reactivated indefinitely at low cost. Detailed specification follow:

Specifications

Measuring for O<sub>2</sub> in air

Range	: 0 - 25% oxygen
Cell Life	: 6 months between recharges
Response time	: 20 seconds to 90% of final reading
Temperature	: 0 - 45°C
Controls	: Comined off/on-span: zero adjust
Power Source	: 9 volt transistor-type batteries(2 pcs.)
Battery Life	: 30 operating hours
Dimensions	: 136 x 85 x 110(mm)
Weight	: 1.3 Kg
Material	: Housing, cast aluminum
Accessories furnished	: Leather carrying case with cover and strap 1m hose, Teflon-lined 25cm probe with filter

### The name of parts

- 1) Span adjusting knob
- 2) Power switch
- 3) Aspirator
- 4) Zero adjusting knob
- 5) Meter
- 6) Sampling tube
- 7) Sampling probe

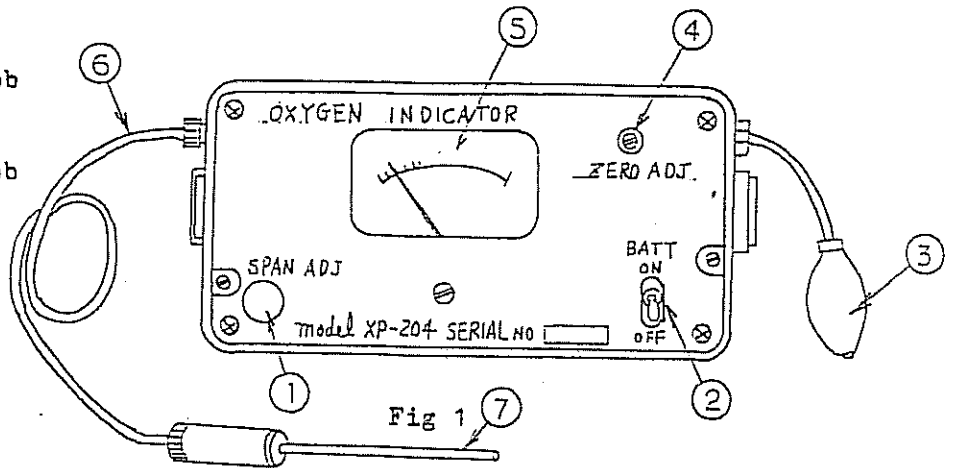
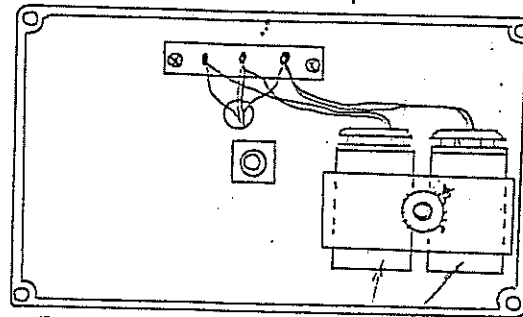


Fig 2



9V transistor-type  
batteries 2 pcs

### How to use

- 1) Take out the bottom plate of instrument proper. Set 9 V transistor-type batteries as Fig 2. Set the aspirator(3), Sampling tube(6) and sampling probe(7) as Fig 1.
- 2) Turn the power switch(2) to BATT. ON. The indication needle will be moved. Set the indication needle to 21% (red mark of meter) by lifting and turning the span adjusting knob(1) after the suction of fresh air by squeezing the aspirator(3) 3-4 times.
- 3) After the finishment of above procedure 1) and 2), the instrument is ready use. Suck the sample gas by squeezing the aspirator(3). After stable of indication, read the concentration on the meter.
- 4) After the finishment of measurement, suck the fresh air by aqueezing the aspirator(3) 3-4 times and turn the power switch(2) to OFF.

### Maintenance

Check whether the indication needle will be reached to 21% by the span adjusting knob or not.

- a) Check the capacity of battery
- b) Check whether the sensor is normal or not

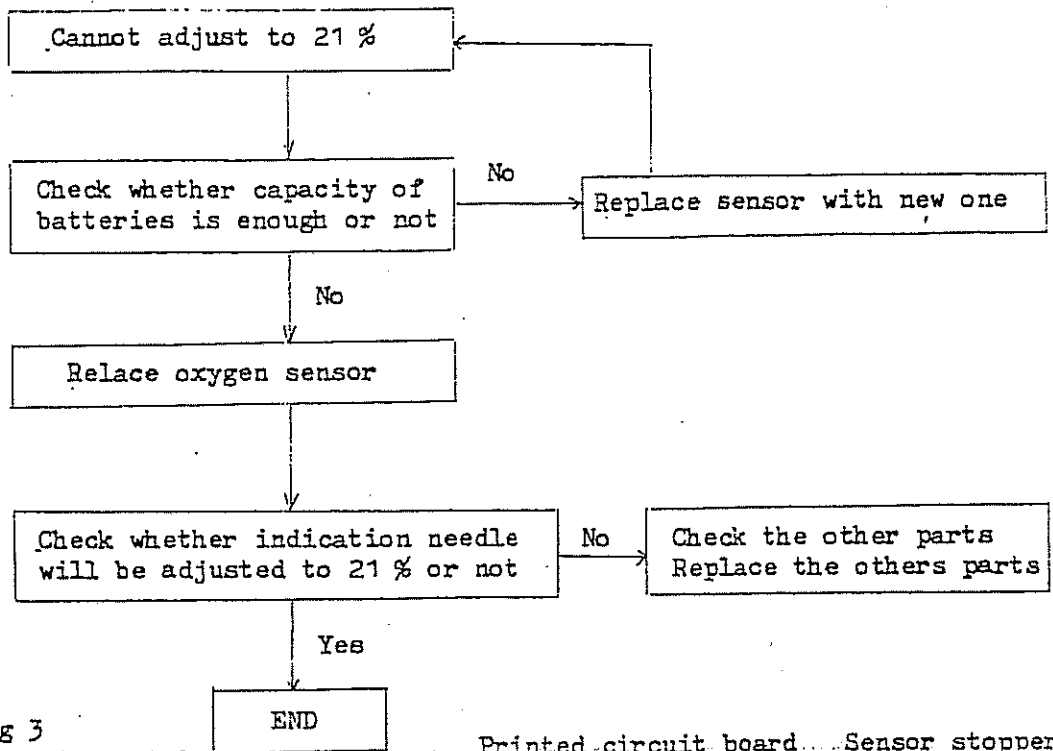
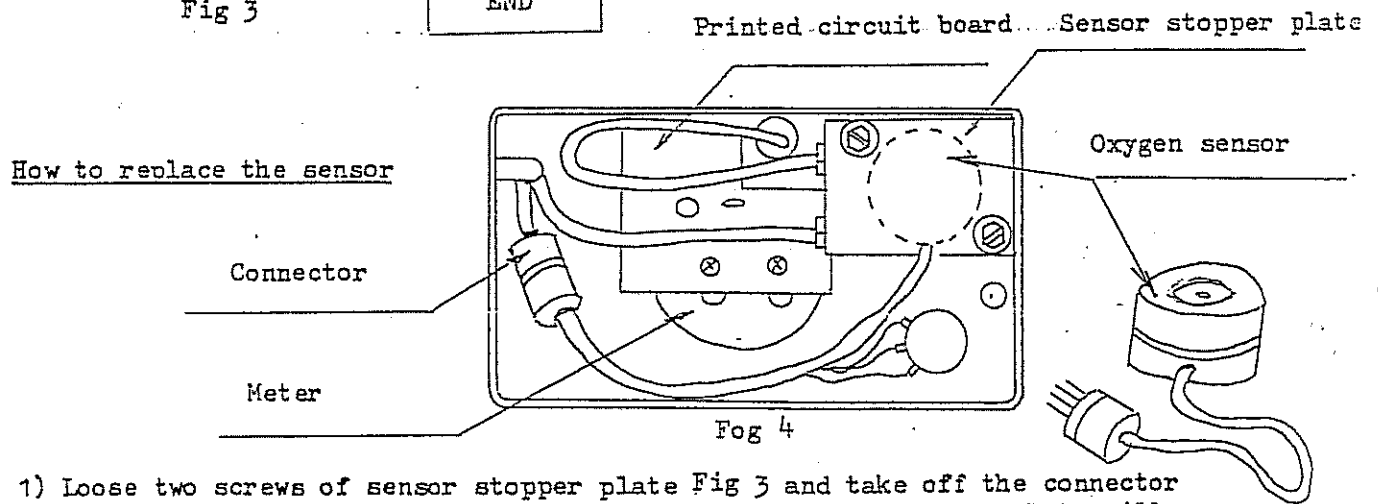


Fig 3



Fog 4

- 1) Loose two screws of sensor stopper plate Fig 3 and take off the connector take our the sensor by sliding the stopper pate. The stopper plate will silde by making loose two screws.
- 2) Take out the scale of new sensor. In this case, there is the water on the surface of sensor after taking out the seal of new sensor. This water is for the damp to keep the sensor life. Then, wipe lightly with cotton. After that, set them into the correct position.
- 3) Fix all parts as presious position.

## Manual Supplement: Model XP-204 0 - 5%/0 - 25%

This model XP-204 has been modified to be a dual range unit instead of a single range unit. The ranges available are 0 - 5% oxygen and 0 - 25% oxygen. The range is selected by using a toggle switch located to the right of the meter. If the switch is set to the left, the 0 - 5% range is in operation. If the switch is set to the right, the 0 - 25% range is in operation. See the instruction manual for normal operation of the XP-204.

### Setting The Zero Reading

The 0 - 5% range must be used when setting the zero reading for greatest accuracy.

1. Turn the unit on.
2. Set the range selection switch to the 5% position.
3. Apply 100% nitrogen to the unit using a gas bag and the aspirator bulb or a fixed flow regulator or valve set to .5 LPM.
4. When the reading stabilizes, adjust it to 0% if necessary with the zero adjust pot located above the range selection switch.
5. Remove the gas from the unit.

### Setting The Span

The span can be set in a fresh air environment and must be set using the 0 - 25% range.

1. Turn the unit on. Be sure you are in a fresh air environment.
2. Set the range selection switch to the 25% position.
3. Use the span adjust knob to set the reading to the "CALIB" level, 21%.



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## Product Warranty

1/1/2002

RKI Instruments, Inc. warrants gas alarm equipment sold by us to be free from defects in materials, workmanship, and performance for a period of one year\* from the date of shipment from RKI Instruments, Inc. Any parts found defective within that period will be repaired or replaced, at our option, free of charge. Parts must be returned to RKI Instruments, Inc. for repair or replacement. This warranty does not apply to those items which by their nature are subject to deterioration or consumption in normal service, and which must be cleaned, repaired or replaced on a routine basis.

Examples of such items are:

- a)..... Pump diaphragms and valves
- b)..... Fuses
- c)..... Batteries
- d)..... Filter elements

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repair procedures not in accordance with instruction manual. This warranty indicates the full extent of our liability, and we are not responsible for removal or replacement costs, local repair costs, transportation costs, or contingent expenses incurred without our prior approval.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESSED OR IMPLIED; AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF RKI INSTRUMENTS, INC. INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL RKI INSTRUMENTS, INC. BE LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE OF ANY KIND CONNECTED WITH THE USE OF ITS PRODUCTS OR FAILURE OF ITS PRODUCTS TO FUNCTION OR OPERATE PROPERLY.

This warranty covers instruments and parts sold to users only by authorized distributors, dealers and representatives as appointed by RKI Instruments, Inc.

We do not assume indemnification for any accident or damage caused by the operation of this gas monitor and our warranty is limited to the replacement of parts or our complete goods. Warranty covers parts and labor performed at RKI Instruments, Inc. only, and does not cover field labor or shipment of parts back to RKI.

\* The Models GX-2001 and GasWatch 2 carry a two year warranty. The two year warranty applies to the instrument including original sensors. Replacement parts and sensors have a standard one year warranty.